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Martin County and the other Border Counties of Southern Minnesota and Upper Iowa.

Class F606

Book M37

MARTIN COUNTY

AND THE OTHER

BORDER COUNTIES OF

SOUTHERN MINNESOTA

AND UPPER IOWA.

PUBLISHED BY
H. F. SHEARMAN AND COMPANY,
138, FLEET STREET, LONDON, E.C.
1874

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The late John Stuart Mill remarked that, "in considering the question of climate in connection with emigration, that must be held to be the most desirable which is most conducive to bodily vigour and the consequent capacity to labour; where nature does most, as in tropical countries, man can do least; in sterner latitudes, the greater energy of man more than compensates for winter's drawbacks."

Of the 241,000 *people who emigrated from the United Kingdom in* 1874, 25,000 *went to Canada,* 53,000 *to Australia and New Zealand, and* 148,000 *to the United States. The "Times," in an article referring to the increased living expenses in England, and fewer openings for the middle classes, recommends as the only remedy for an evil which every year grows worse, removal to other regions where the resources of nature, her open spaces, and her fertility are still far ahead of human industry; and Mr. Walter, M.P., the proprietor of that paper, in a volume published by him in* 1867, *entitled "First Impressions of America," remarks that "America must be seen to be understood; and those who visit it will probably return with mixed feelings—of pride, at the thought that the great work of civilization which is rapidly overspreading that continent is being carried on by men of our own race and language; and grave reflection, I will not say of sorrow, at the thought that half a century hence America will be the most powerful country on the face of the earth, and that, as all greatness is relative, our own star will be on the decline."*

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MARTIN COUNTY,

AND THE OTHER BORDER COUNTIES OF

SOUTHERN MINNESOTA,

AND UPPER IOWA.

This manual is principally composed of summaries, or extracts from State reports, statistics, and other Government publications. Its fragmentary manner is consequent on a desire to condense the greatest amount of information into the smallest available space. Its special object is to recommend Martin County, and other adjacent border counties of Southern Minnesota and Upper Iowa, to the notice of English gentlemen who desire to possess some of the richest agricultural lands in the world, combining the advantages of a healthy climate and a fruitful soil, where they can live comfortably, and make money.

The area of Minnesota is 84,000 square miles, or 54,000,000 acres; the State occupies the exact centre of the continent of North America, and embraces the sources of the three vast water systems of the States; its name is derived from its principal river, running through the southern part of the State, and which the Dakotas named "Minnesota"—cloud-coloured, or sky-tinted water. On a tributary of this river are the falls of Minnehaha, described in Longfellow's "Hiawatha."

The rapid growth of Minnesota in population and wealth has never been equalled, even on the American Continent; the continuance of this is causing, and must further cause, a rapid increase in the value of its lands.

The topography of this State is not characterised by either illimitable prairies or vast forests, but by an alternation of woods and prairie, upland and meadow. Its general surface is undulating, with great

picturesqueness imparted to the scenery by its lakes, waterfalls, bluffs, and ravines.

The soil of Minnesota is what is generally known as drift deposit, and is chiefly derived from the decomposition of the lower magnesium limestone; it is very fertile and easily worked; and containing a good proportion of sand, is warm, and admits of early cultivation in the spring. David Dale Owen, the geologist, describes it as of "excellent quality, rich as well in organic matter as in those mineral salts which give rapidity to the growth of plants, and that durability which enables it to sustain a long succession of crops." Dr. A. H. Hayes, assayer to the State of Massachusetts, pronounces it a dark coloured, fine textured soil, abounding in organic matter, and highly fertile. It has, in fact, a large amount of natural manures, mixed with soil, and cannot fail to produce great and permanent fertility. It closely resembles the sugar-cane soil of the West India Islands."

Lieutenant Maury says: "Minnesota is far from the sea, but it is a better watered country than either Kansas or Nebraska; indeed, it may be considered the best-watered State in the Union."

General Pope, in a report to Congress, writes: "I know of no country on earth where so many advantages are presented to the farmer and manufacturer."

A State pamphlet says: "It unites all the elements, not only of successful husbandry, but of delightful landscape in the limits of almost every farm."

The Honourable S. Colfax, a Vice-President of the United States, remarks: "Earth and air and sky unite in assuring a magnificent future for this young and vigorous State. Minnesota is the most inviting region to which the immigrant can turn his thoughts and his steps."

The Abbé Em Domenech, in a work published by Longmans in 1860, says: "The portion of the Minnesota that is watered by the Mankato and its tributary streams, surpasses in richness all the American territories situated above the 43° of N. latitude, by the quantity of its woods and fertility of its soil."

Disturnell, author of a work on the "Influence of Climate in North and South America," says: "Minnesota may be said to excel any portion of the Union in a healthy and invigorating climate."

"The region of Southern Minnesota presents a body of arable land which, taken as a whole, for richness in organic elements, for amount of saline matter, and due admixture of earthy silicates, affords a combination that belongs only to the most fertile upland plains."

PROFITABLE FARMING BY THE CONTRACT SYSTEM.

Memoranda by Mr. Shearman.

To anyone who purchases land in Martin County through this Company and wishes to have advice and assistance during the first year of his residence there, in which he may lack experience in farming, and who also desires to have the substantial accuracy of this Memoranda guaranteed to him, Mr. Shearman will engage to make proper contracts to have all the crops put in at the prices here specified, and will gladly aid with his advice any of those who may settle within reasonable distance of him.

The method here introduced shows how in ordinarily favourable seasons the cultivation of certain crops will in the first year yield profits more than sufficient to pay for the purchase of the land and cost of living. This method is only practicable in the settled parts, where labour can be hired. Ordinary business atttention is of course necessary to see that the planting, cultivation, and gathering of the crops are properly supervised, and that they are not left untended for the flocks of wild ducks, geese, and other birds to devour.

In opening a farm for cultivating beans, the following would be the disbursements, viz.:—

				Per Acre		
			dols.		*s.*	*d.*
NOTE	A.	For Breaking (*i.e.*, ploughing the sod) .	3.00	or	10	9
,,	B.	,, Rolling	35	,,	1	6½
,,	C.	,, Seed Beans	1.50	,,	1	9½
,,	D.	,, Labour, Planting, etc. . . .	1.	,,	3	7
		Total . . .			17	8

As no cultivating or hoeing can be done or would be of benefit the first year, on the sod, there is no further expense or labour with the crop until it is ready for the harvest—80 to 100 days from the time of planting—and the disbursements then are about as follows, viz.:—

			Per Bushel. *cents.*
NOTE	E.	For Pulling the Beans	10
,,	F.	,, Carting to Machine and Threshing . .	10
,,	G.	,, Winnowing, Assorting, and Cleaning .	02
,,	H.	,, Carting to Railway Station . . .	10
,,	I.	,, Clerk-hire	02
		Total . . .	34, or 1*s.* 7*d.*

And the receipts may be estimated in an average season as follows, viz. :—

		£ s. d
NOTE K.	25 bushels to the acre—	
„ L.	Worth 2 dols. 25 cents per bushel at the farm, clear of cartage and freight. Deducting therefrom the harvesting expenses, as before set forth—34 cents per bushel—and we have a balance of 1 dol. 91 cents per bushel, which, with 25 bushels to the acre, amounts to . . Dollars 47.75 per acre, or	7 15 5
	And taking from that the cost of putting in the crop (as before stated) . Dollars 5.85 „ „	0 17 8
	And it leaves a net profit of . Dollars 41.90 „	£6 17 9

A FARM OF THREE HUNDRED ACRES CROPPED WITH BEANS.

In purchasing and working in the foregoing manner a farm of 300 acres, the following is a fair statement of Disbursements and Receipts the first year, after which it can be made more profitable, as the cost of working will be then rather less, and the more profitable crops can be grown :—

CAPITAL ACCOUNT.—OUTLAY.

Purchase of 300 acres of land at £3	£900
Horse, saddle, etc., £35 ; well and pump, £15	50
Comfortable framed house, with 5 rooms ; and stable . . .	150
Total	£1,100

EXPENSE ACCOUNT.

Interest on £1,100 capital at 10 per cent.	110
Ploughing and putting in crop of beans or peas	325
House expenses for 2 persons and 1 servant ; also horse keep .	100
	£535

RECEIPTS.

The net receipts, clear of the expenses at harvest, may be stated at from £8 to £12 per acre, according to the yield of the crop —say £8 per acre on 300 acres	£2,400
From which deduct expense account, as above stated . . .	535
Leaving the balance of profit	£1,865

In these calculations the American dollar is estimated at 3*s.* 7*d.*, which is now (January, 1876) its value in London.

Explanation of Notes.

NOTE A.—BREAKING—that is to say, ploughing the sod for the first time—is done by contract with the farmers ; you simply pay them 11*s.* 6*d.* per acre for the work, and they find the ploughs, horses, their food, etc. Plenty of men can be found by advertisement at the price stated; in fact, we have always had many more applicants than we could employ.

ERRATA ON PAGES 5 and 6.

All the calculations in dollars are correct, but there is a clerical error in their reduction into English money.

	£	s.	d.
On page 6. Instead of £7 15s. 5d. the total yield is ..	8	11	1
„ „ 5 and 6. The cost 17s. 8d. should read	1	1	0
Leaving, instead of £6 17s. 9d., the balance of profit of	£7	10	1

NOTE B.—ROLLING, after it has been ploughed, is also done by contract, and the men furnish rollers, horses, their food, etc.

NOTE C.—SEED BEANS. The most profitable beans are the "yellow-eyes," "marrowfats," and "pea beans;" the best seed will cost about 15*s.* 6*d.* per bushel, delivered at the farm, and it requires about one-third of a bushel to plant an acre; the average has been rather less.

NOTE D.—LABOUR. The beans are planted the first year with a hand-planter, in rows about two and a half feet between each bunch, with six to eight seeds in a bunch together; with these hand-planters a man can plant an average of two acres per day (with from twenty to twenty-five men in a gang I have planted an average of three acres per day to each man, as long as I looked after them in the field myself); plenty of men can be hired at 5*s.* 6*d.* per day. The 3*s.* 9*d.* per acre for labour is ample to cover the expense of planting and carrying the beans into the field, besides the purchase of the hand-planters, which cost about 7*s.* 6*d.* each. After the first year the planting is done by horse-planters, with which one man, with one horse, can put in ten acres per day, so that the cost of planting, then, is reduced to 1*s.* 3*d.* per acre.

NOTE E.—PULLING. This is done by hand-labour, and the men can be employed at so much per day, or by the bushel: done by the day, and with the men well looked after, it can be done for a less cost than the price given in the statement, if there has been a fair yield; but it costs nearly as much to go over the ground when there is little or no yield as when there is a full crop.

NOTE F.—CARTING AND THRESHING. After the beans are dried, four or five days after they have been pulled, they are carted to the threshing-machine and threshed; this is done by contract with the owner of the threshing-machines. The proper machine is a regular bean-thresher, made for the purpose by a Mr. Hall, of Rochester, N.Y.

NOTE G.—TO WINNOW, ASSORT, AND CLEAN the beans they are run through a small hand winnowing-machine that will put through, with two men, 1,000 bushels per day; there has to be a man also to take away the bags, and another to feed in the beans; if well looked after the cost ought not to exceed one cent per bushel; it is put at two cents per bushel in the statement.

NOTE H.—THE CARTING TO RAILWAY STATION will probably be much less next year, as it is expected that the railroad will be extended and a station put near these lands. Ten cents per bushel has been paid to the farmers where the distance did not exceed 24 miles.

NOTE J.—CLERK-HIRE. Two cents per bushel is more than enough to pay two men, one at the threshing-machine and one at the station, to take and keep accounts of the beans as they are shipped off, etc.

NOTE K.—NUMBER OF BUSHELS PER ACRE. With a good season the crop ought to be not less than 30 bushels to the acre, and on old land, planted by horse-planters, the yield will sometimes run up to 40 bushels to the acre; the average crop of beans is given in the Government reports as $27\frac{88}{100}$ bushels to the acre. Of course, a good yield cannot, under any circumstances, be expected, unless care is taken to see that the seed is properly planted in the spring.

NOTE L.—PRICE. Boston, Chicago, and Saint-Louis are all good bean markets; in Boston first-class "yellow-eyes" and "pea" beans generally bring 9*s.* to 10*s.* per bushel, and have been as high as 20*s.* per bushel, but

are now lower than they have been in many years, and are quoted at 9*s.* to 11*s.* for "yellow-eyes," and 9*s.* to 10*s.* for "marrowfats" and "pea" beans. The freight to Boston, from Winnebago City, can be had in the summer or fall at from 1*s.* 9*d.* to 1*s.* 11*d.* per bushel.

The beans are shipped in bags which hold 2¼ bushels, and cost 32 cents each; they are not mentioned in statement of costs, as they are sold, by custom of the trade, with the beans, for cost price, and consequently are no loss or cost to the farmer.

NOTE M.—HORSE, SADDLE, ETC. Where a person has 300 acres under cultivation, it is best to have a horse to ride about and look after the men, etc. A good horse, young, sound, and kind, can be purchased for £30, and a saddle and bridle for £5 more.

REMARKS.

The crop here specially referred to is one of the best that can be produced on the sod, *i.e.*, the first year; potatoes, beets, onions, and all root crops also do very well on the sod; but with corn but little can be done—not enough, I think, to pay for the seed and bother—though there have been exceptional cases wherein a tolerable crop of these cereals have been grown upon the sod.

June is the best month to have breaking done; when done in May the grass is apt to come through and grow again, particularly if it is a wet season; and the grass being drier in July, the sod when turned then does not rot so well as when the grass is fresh and green in June; furthermore, when the breaking is done in July, it is too late to plant a crop on the sod.

Beans and wheat, in alternation, will undoubtedly be found very profitable crops, each promoting a larger crop of the other than could be obtained by either alone year after year on the same land, as is usual in wheat cultivation in Minnesota.

I have seen a fine crop of wheat on land upon which wheat had been grown for 23 successive years, and this, too, without any change of seed, without manure or deep ploughing, and the twenty-third crop happened to be the best of them all. Surely land that will stand such treatment is rich enough to return a fortune to anyone who will work it more intelligently.

To plough the sod requires four good horses, to purchase which, with harness and plough, would require, say £125. Now one man working with that outfit would hardly get over forty acres done in the best breaking season, so that the ploughing of forty acres would cost

an outlay of £125 (besides the labour of the man), and the team would then remain on hand, an additional care and expense; but the £125 would have 232 acres ploughed by contract, and no work or bother but to see the work well done, and no team remaining as an expense afterwards. Now therein lies one of the chief elements of the great profitableness of this matter: instead of sinking capital in horses, etc., and either working hard youself or hiring men, the same capital, when the work is done as herein set forth, has more than four times as much land worked, and of course there is received more than four times as much profit. This way of working is only practicable in well settled places like Faribault and Martin Counties, where plenty of men, horses, etc., can be hired; where there are accommodations to be had without building, and where fencing is not necessary.

H. F. SHEARMAN.

To readers of this Memorandum who think of purchasing some of this land, the whole matter would probably be resolved into these cardinal questions—as to which they would wish to be satisfied—namely:—

1st. Is the title to the land good?

In answer to which they would be referred to the Hon. Hugh McCulloch, Banker, 41, Lombard Street, London; and if they wished official information, it is easily obtained from the county officers of the respective counties, or from the Governor of the State.

2nd. Are the crops worth the prices stated herein?

In answer to which they would be referred to the prices current arriving every week.

3rd. Are the productions as much per acre as is herein stated?

For answer they can be referred to official reports, showing the number of bushels raised in each county in the State, together with the number of acres and average production per acre.

4th. Can the land be worked at the price stated?

It has been already so worked; and if desired, Mr. Shearman will CONTRACT TO PUT IN THE CROPS THE FIRST YEAR AT THE PRICES HEREIN GIVEN.

OFFICIAL TESTIMONIALS.

"*State of Minnesota, Executive Department,*
"*Saint Paul, December 3rd,* 1874.

"To whom it may concern.

"I take great pleasure in commending to the kindly offices of all persons with whom he may have business or social relations, Mr. H. F. Shearman, an esteemed resident of the County of Martin, in this State.

"I am informed that he proposes visiting England, and that he intends while there to represent the agricultural and other advantages of that portion of the State of Minnesota where he resides.

"I can state Martin County and the southern portion of Fairbault County are regarded, with entire justice, as presenting, in an eminent degree, those qualities of soil, water, and climate, which have made our State so justly notable as a Wheat and Stock-raising region.

"C. K. DAVIS,
"Governor of Minnesota."

"*State of Minnesota, Executive Department,*
"*Saint Paul, October 20th,* 1873.

"H. F. SHEARMAN, ESQ.,

"DEAR SIR,—I hear that you are to spend the winter in Europe, and that while there you may offer for sale, on the part of the Trustees of the Southern Minnesota Railway, some of the lands which have been granted and conveyed to that Company, and are now in the hands of the Trustees thereof, and may be sold by them.

"The lands thus far conveyed to the S. M. R. R. Co. are situated in the Counties of Freeborn, Fairbault, Martin, and Jackson, which lie along the southern boundary of the State, and for fertility are not to be excelled by any other portion of the State. This description, of course, applies to the lands as a body or district constituting these counties, and is not meant as descriptive of every piece or parcel belonging to the Company.

"I mean to say only that the great body of those lands are of excellent quality, and well fitted for all branches of agriculture.

"Anyone at all acquainted with that section of this State cannot say less.

"Very respectfully,
"HORACE AUSTIN,
"Governor of Minnesota."

"*State of Minnesota, Auditor's Office,*
"*St. Paul, December* 18*th*, 1874.

"To whom it may concern.

"In reference to the Railroad and other lands, situated in Martin County, in this State, represented by H. F. Shearman, Esq., I would say that in regard to fertility, location, present and prospective facilities, they are perhaps unsurpassed in this State, and I am not acquainted with any section of country that offers more inducements to the new settler than the beautiful County of Martin.

"O. P. WHITCOMB,
"Auditor of State."

From the Right Rev. the Bishop of the Diocese.
"*Fairbault, December* 22*nd*, 1874.

"My Dear Mr. Shearman,—I have been asked by Mr. Drake my opinion of the lands on the Sioux City R.R. I regard them as rich agricultural lands, well fitted for the growth of our Minnesota Wheat, and there are large districts peculiarly well fitted for Stock Farms, which I have always believed will be the most lucrative branch of Minnesota farming; and I have never had any question that it will some day have a very dense agricultural population.

* * * * * *

"The country is very healthy, and has a better population than is usually found in new countries. There is no portion of the State in which I feel a deeper interest.

* * * * * *

"With kind regards,
"Yours faithfully,
"H. B. WHIPPLE."

"*President's Office,*
"*St. Paul and Sioux City, and Sioux City and St. Paul Railroads,*
"*St. Paul. Dec.* 22*nd*, 1874."

"Henry F. Shearman, Esq.

"Dear Sir,—The Land Department of this Company has placed in your hands a descriptive list of lands and plants, showing the parcels of land owned by this Company in Martin County, Minnesota, U.S.A. The list embraces over 40,000 acres of most valuable lands, probable not surpassed in fertility or beauty of surface by any lands in the State.

"This district is absolutely free from all malarious diseases, and as healthy as any in the United States. Interspersed with these lands are beautiful lakes, abounding with wild fowl and fish, and the whole surface of the earth in summer is covered with rich natural grasses. The soil of

this region is generally a deep, warm, black loam, easy of cultivation, and produces beautiful crops of Indian corn, wheat, oats, rye, barley, flax, and all vegetables usually cultivated.

"The culture of beans and sorghum has been found particularly adapted to the soil and climate of this locality.

"H. F. Shearman, Esq., who particularly represents this Company in England, for the sale of the lands, has been furnished with plats, notes, and surveys, accurately representing the quality of soil of each tract, the streams and lakes, and the general topography of the lands. The descriptions have been prepared by actual survey, and are guaranteed to be substantially correct. Any selection of lands that may prove unsatisfactory, may be exchanged within seven months from time of purchase for any other unsold tract then owned by the Company in Martin County, thus giving a purchaser the right to select a tract at once, with the privilege of making a choice, within reasonable time, from the whole body of lands owned by the Company within the County.

"E. F. DRAKE, President."

LETTERS FROM ENGLISH SETTLERS IN MARTIN COUNTY.

J. S. Whittaker, Esq., of Willow Glen, Fairmont, writes, Aug. 16th, 1875:—

"I have been busy, or would have written to you before regarding the general appearance of crops. We are now reaping a most abundant harvest: the corn, wheat, and oats are indeed very heavy, and all other crops are looking equally well. The beans promise a *very handsome* return; we shall commence to harvest the beans in about two weeks' time, as they are ripening fast.

"Your statement with regard to the fertility of the soil I find to be perfectly correct—I believe it to be '*inexhaustible*'—and it seems to suit any crop that is not strictly tropical.

"I have travelled much—visiting every quarter of the globe—and I can truthfully say that I have never seen anything to surpass the fertility of the soil, and the beauty of the scenery. There is not the least doubt that money can be made rapidly here.

"The climate I find to be most health-giving. During my stay in England I was seriously affected with bronchitis; I have been perfectly free from it since I have lived here, for the last fifteen months.

"I suppose you saw from the *Fairmont Sentinel* that a few grass-

hoppers came our way ; I am very glad to say they did no damage, nor are they likely to trouble us next year.

"In conclusion, I am happy to say that I am very much pleased with my experience and residence in this country."

J. S. Scott, of Frieburg, Baden, writes, Sept. 22nd, 1875 :—

"Having within the past few weeks visited Martin County, Minnesota, and particularly the lands which you have for sale there, I have pleasure in stating that I formed the most favourable opinion, both as to the richness of the soil and the character of the climate, for agricultural purposes.

"I was in time to see the crops of the present year, the yield of which is truly wonderful, and that without manure.

"Oats are giving eighty-five bushels to the acre, and broom-corn and beans (still in the ground when I left) are calculated to yield a handsome return.

"An English gentleman farming there stated that three acres of broom-corn would yield one ton, and that the current price in Chicago is £60.

"The district, with its three parallel chains of beautiful lakes abounding with fish, and fringed with trees, is the most desirable for farming operations coming under my observation in the States or Canada.

"Having myself purchased land there from you previous to going out, I can safely recommend the County to anyone desiring to make the most of a limited capital in circumstances most favourable to health and enjoyment."

The following appeared in the "Times" of May 4th, 1875 :—

"There are so many English gentlemen of liberal education, but of limited means, who are looking about for some occupation, either in the Colonies or elsewhere, by which they can not only obtain a living, but materially improve their circumstances, that I consider my own experience abroad may not be without its use to those who entertain the idea of emigration. Two years ago I had intended emigrating to New Zealand, and anxiously enquired the probabilities of success in that distant Colony; and I found that, without a larger amount of capital than I could command, there were delays and difficulties which I was not prepared to encounter. My attention was then called to Minnesota, United States, and from the very favourable report of the nature of the large and immediate profits to be realized, I determined to purchase some land, and try my luck in that State. Early in May, 1874, I and my wife started from Liverpool, and in fourteen days arrived at our destination. We found a

most charming country, a most enjoyable climate, and, what was more to my purpose, a soil of rich black loam, fertile even beyond my expectations. Last year was a bad year for farming operations in those parts, on account of the plague of grasshoppers which exceptionally visited this State; but notwithstanding this drawback, experience teaches me—and this is confirmed by the settlers who have located themselves in Minnesota—that, taking one year with another, 100 per cent. per annum profit can be realized on outlay in the purchase and occupation and cultivation of the land. To a sporting man, too, Minnesota offers special advantages, which can hardly be surpassed in any country to which Englishmen emigrate. Prairie-chickens, rabbits, and wild fowl of all sorts and descriptions are to be found in abundance, giving constant sport, and an excellent supply for the table. I could, indeed, mention many other advantages and luxuries which are to be found in this delightful country, which cannot be had by men of limited means in any part of Europe, nor, I believe, in most of our Colonies. But fearing to trespass too much on your space, I will only say in one word that I cannot believe any country will afford so profitable investments of small capital, such cheap living, and such sound advantages as Minnesota. Family circumstances will keep me in England until next spring, and in the meantime I shall be glad to give every information to any intending emigrant."

From the "Liverpool Courier" of December 15th, 1875:—

"Sir,—As you have on several occasions kindly admitted into your columns communications about this country as a home for intending settlers, I shall be glad if you will permit me to relate my experience here, which I hope may be of service to any of my fellow-countrymen seeking a home in a new country, and still undecided where to pitch their tent.

"I arrived here last spring, and after a night spent in Winnebago, the present terminus of the Southern Minnesota Railroad, and a three days' run from New Yoak, came on to Fairmont, the flourishing little capital of Martin County, and justly so named from its lovely situation, and to which locality I had been directed by friends in the old country. The run of some twenty miles took me first through the richly-wooded country on the banks of the Blue Earth river, which strongly recalled the Thames at Henley, and then over the magnificent American prairie, brilliant with its rich waving grass and many-coloured wild flowers, till we struck the lake district of Martin County, which in an area of about fifteen miles square, comprises no less than seventy-four lakes, many of surpassing beauty, and richly-wooded down to the water's edge. After a week or two's looking round I bought a farm, a couple of miles north of the town, on the banks of one of these lakes, and have now had one season's trial of

American farm life ; and I can safely assert that to a man of small capital, and fond of an outdoor life, it presents advantages impossible to be had on anything like such easy terms in England or any country in Europe where I have travelled. The soil is a rich black loam, of great depth, and the rapidity with which all crops advance to maturity, and the luxuriant growth of many kinds of cereals, would surprise those accustomed to less genial soils. My crops, consisting of wheat, oats, and beans, were all of first-rate quality, and would bear comparison with those of the old country ; and I had besides a considerable crop of the beautiful Indian corn, which grows here to great perfection, and makes cheap and excellent winter food for horses, and fattens hogs with surprising rapidity. I have also a small flock of half merino sheep, a few head of cattle, and pigs of the Polin-China breed imported from Illinois, something like our Berkshire, only growing to much greater size : and in this way of mixed farming I can see my way to do very well on a capital which would be of no use at all on an English farm of the same extent.

"Sheep especially and hogs can be made very profitable. The former can be bought for about three dollars, and the wool and increase give over 7 per cent. every year. Hogs give nearly as large a margin of profit. Hay costs to buy only two dollars per ton, and can be made by one's own horses and men at much less cost ; and a summer's run for cattle or sheep a few miles off on the prairie costs only the wages of a boy to herd them. Horses are cheap and good. I have four in my stable which cost me less than £100, and they could not be bought for three times that amount in England. The only drawback I know of is that at present labour is somewhat scarce and high. For this among other reasons, cattle, especially sheep and hogs, are far more profitable than grain-raising for market, which requires many hands. I have carried on the operations on my farm with one or two men hired by the month, and am confident that with care and industry, backed by a little capital, and, if possible, experience in farming, a man may make a good living here.

"We are now twenty miles distant from a railway, but the surveying to carry the line on to Fairmont has already commenced, and a station will be opened in that town next autumn. This in America at once creates a large place, and of course enhances the facilities for farming, disposing of produce, etc., besides sending up the price of land.

"The labour question will, I hope, shortly be improved, if not completely solved, by the efforts of Mr. H. F. Shearman, the apostle of Martin County, well known and respected here for his efforts to introduce English settlers into this new county. I am informed he is organizing a plan to send out a colony of English and German labourers to a tract of land on the Sioux City Railway, not very far distant from this locality. This is a step in the right direction. Though I did not purchase my farm through Mr. Shearman's agency, and do not even know him personally, I should, from all I have heard and seen of his sayings and doings here,

strongly recommend intending settlers, especially in the case of young men sent out by their friends or guardians, to consult him as to the farms to select, rather than deal with the possessors of so-called improved farms, the owners of which ask exorbitant prices for these improvements, which are practically worthless, and consist generally of a miserable house or cottage, a straw barn, and a few rods of fencing, all of which require to be pulled down and built over again before they can meet the most moderate demands an educated Englishman would make for comfort. Generally, too, from their total want of capital, not one-tenth of the farm has been brought under cultivation, but certainly all the timber possible to be felled has been cut out. I was personally fortunate in avoiding the many pitfalls set for the unwary, especially the English, by these veritable landsharks, but would recommend intending settlers to consult Mr. Shearman, or other gentlemen well acquainted with the locality, rather than run the risk of being shaved by a Yankee.

"To any who wish to combine the pleasures of sport with farming operations, Martin County offers a splendid hunting ground. Prairie chickens and wild ducks swarm. I have counted flocks of near one hundred wild geese on the lake on which my farm stands. Cranes (better eating than turkey) abound, and larger game may be had in the big woods near Mankato, fifty miles north of us; deer, elk, and a small black bear, and all close to a smart, lively town, with good hotels, etc., and no roughing, unless one wants to do it. To any goldseekers I may say we lie on the direct route to the new Eldorado, the Black Hills, to which they may get in about a couple of hundred miles, if they choose to run the risk of losing their scalp to a redskin.

"We have now a pleasant colony of Englishmen in this immediate neighbourhood, and shall be heartily glad to welcome among us fresh settlers from the old country.

"I am, Sir,
"Yours truly,
"J. M. FARRAR.

"*Fairmont, Martin County, S. Minnesota, U.S.A.*"

SOUTHERN MINNESOTA

MANUAL OF GENERAL INFORMATION.

Geological Formation.—The lower sandstone formation comes to the surface on the east side of the Upper Mississippi; to these succeeds the lower magnesium limestone, which appears south-west of the lower sandstone; next supervenes the upper magnesium limestone, with its underlying shell beds, lead-bearing strata, coralline, and pentamerus subdivisions, all lying south of the two preceding. South-west, again, is the cedar limestones, contemporary with the Devonian formation of English geologists. Whilst the intervening country specially referred to in this pamphlet is overspread with drift, a large proportion of this district consists of rich fertile soil, well adapted to all agricultural purposes; and some of the lands can scarcely be excelled for fertility by any others in the world.

Soil.—The Iowa State geologist, in speaking of the western border counties immediately adjoining Southern Minnesota, says there is a warmth and mellowness of the soil which is so favourable to the growth of crops, that they are usually matured in Northern Iowa as early as they are on the more clayey soil hundreds of miles south, and that the soil becomes sufficiently dry to cultivate sooner after frosts and rain.

Character of the Land.—Mr. Massey and Dr. Shumard report a large body of fine arable land adjacent to the St. Peter and Mankato rivers:—"On fairly entering the valley of the Minnesota river, we again find a fertile, well-watered, and desirable farming country; the second terrace of land bordering the Minnesota may be especially cited for its fertility and advantageous position." "The soil is derived from the decomposition of the lower magnesium limestone, is usually of excellent quality, and rich in organic and mineral salts." "Some of the lands of Des Moines and Cedar rivers are not excelled for fertility in the world."

Lakes.—An important and picturesque characteristic of the broad summit of this great watershed is the number of small lakes which

abound throughout its area; the surface of the country is literally studded with them. "Some of these chains of lakes form the sources of all or nearly all the rivers, and others, smaller and more numerous, are wholly isolated, having no apparent outlet. Many of these lakes are dotted with small wooded islands: their borders differ in appearance; whilst some are surrounded by gentle grassy slopes, in others the shores are abrupt, with overhanging foliage; their beds are generally pebbly, and very few have mud bottoms. The water is generally sweet and clear, and as cool and refreshing during the heats of summer as the water of springs or wells. All the lakes abound with fish of quality and flavour greatly superior to those of the streams of the middle and western States; and they are the resort of immense numbers of waterfowl."—*Dr. Norwood's Report, Geological Survey.*

There are but few lakes in Iowa in comparison with those in Minnesota. Dr. White, the Iowa State geologist, says:—"The majority of the drift lakes in Northern Iowa are some of the most delightful spots for residence to be found within the limits of the State; their waters are clear and excellent, and their borders gravelly and clean. The regions to which these drift lakes are chiefly confined are near the head waters of the principal streams."

Climate.—The dryness of the air, character of the soil, purity of water, beauty of scenery, and almost total absence of fog or mist, all conspire to give Minnesota a climate of unrivalled salubrity.

The Bishop of St. Paul, in McClung's work on Minnesota, says:—"The dry, bracing air of Minnesota is pleasant compared with the damp, raw atmosphere that characterises the winter of more southernly States. . . . The thermometer indicates a warmer temperature than in the Atlantic States of the same latitude; the summer air is pure, and free from malaria; the winter atmosphere, though cold, is dry; fever, ague, bronchitis, and asthma are unknown."

Extremes of Temperature.—The extremes of heat and cold are in all the States of the Union greater than they are in England or the Continent of Europe.

The Seasons.—"The summers are like those of Pennsylvania, and the winters like those of New England, except that there is less

moisture in the air in the autumn and winter months; the first frosts occur in October, but the streams do not freeze until the end of November. The air is pure, clear, and invigorating; fever, ague, and kindred malarial diseases are unknown."

"The bracing winters exclude many of the diseases which the prolonged heat of a more southern climate engenders."

"Through the winter there is hardly a day in which one would wet through a pair of thin-soled boots in walking over the dry snow."

"We have a climate unequalled for comfort and health the year round; our winters, upon the severity of which our rivals so much delight to dwell, are by many preferred to our summers, pleasant as they are conceded to be. We are above and beyond the regions in which malarial influences prevail; the health of our people, when contrasted with the middle, south, and south-western States, is alone sufficient to determine thinking men. . . . . We have no rainy season here, no protracted droughts, but a medium all the year round."

Rain and Snowfall.—Rain tables, prepared from observations recorded, for a series of years, at sixteen different places in Canada and the States, shows a mean of thirty-five inches, while the mean at Fort Snelling, in Southern Minnesota, is twenty-five inches. The mean summer fall for the sixteen places was eleven inches, and at Fort Snelling ten inches. In Minnesota one half of the spring rain falls in the month of May, the season of vegetable growth. The average snow fall is about six inches per month; in Southern Minnesota it is rather less. Long driving snowfalls are almost unknown, and rain never falls during the winter months.

Government.—Each State has exclusive control of its own internal business, and is, like the general government, divided into three branches—executive, legislative, and control. Minnesota is divided into 73 counties; each county has a Board of Commissioners, Treasurer, Auditor, Sheriff, Clerk of District Court, Judge of Probate, Registrar of Deeds, Surveyor, Attorney, Court Commissioner, and Coroner. A county is subdivided into townships, each of which elects its own officers, viz., three Supervisors, Town Clerk, Assessor, two Justices of the Peace, two Constables, and an Overseer of Highways for each road district.

Taxes.—The State and local taxes are low; the State tax of five mills on the dollar (about one penny in the £) is invariably reckoned on less than half the true value of the property. The local taxes vary in different counties and towns, the amount being dependent upon the extent of local improvements. The total of all taxes in Martin County, including United States and local, will average from 2d. to 3d. an acre. Many of the States having contracted large State debts, entailing of course heavy taxes, it behoves an intending settler to inquire into his liability in this respect; in some of the Southern States land-owners have been known to forfeit their lands sooner than pay the current taxes.

Aliens.—An alien may hold real estate in Minnesota, his title being in every respect as good as that of an American citizen.

Law of Descent.—Where no will is made, property descends: (1) in equal shares to the children; (2) if there are no children, to the widow during life, and afterwards to the husband's next-of-kin.

Military Duties.—Englishmen settling in the States are exempt from performing military duty, or from the payment of money to secure such exemption.

Rate of Interest, where not otherwise specified, is 7 per cent., but any rate not exceeding 12 per cent. is legal, if agreed in writing.

The University of Minnesota was established by the legislature in 1851, and aided by a generous grant of lands. It is situated near St. Paul on a wooded eminence, commanding a view of the falls of St. Anthony and of the surrounding country. The institution is now in full operation; it has classical, agricultural, and military departments. There are five professors and five instructors connected with the departments of Agriculture and the Mechanic Arts.

Schools and School Lands.—A land endowment of two sections on each township of the State has been set apart to provide a fund for the maintenance of public schools, the education in these schools being free of all charge.

Free Farms.—Any settler who is a citizen or intended citizen may

become the possessor of from 80 to 160 acres of Government land without paying for it, by residing on and cultivating it for five successive years. The law allows but one homestead privilege; a second selection cannot be made. The interest in a homestead claim cannot be sold during the five years, nor can it be re-entered if it is abandoned.

This Homestead Act is specially designed for the poorer class of emigrants, who can put up with the hardships of pioneer life; in the more settled districts all Government land is already occupied; there is none now left in Martin County.

The Homestead Exemption Act provides that a house and most of its furniture, 80 acres of land, and some of the stock on it, owned and occupied by any resident of this State, shall not be subject to attachment, levy, or sale, upon any execution or other process issuing out of any court within the State.

Land Measurements.—A county is divided into 20 townships, each 6 miles square; a township is divided into 36 sections, each 1 mile square, or 640 acres; every section is divided into 16 squares of 40 acres each.

Numbering the Sections.—The sections are always numbered from 1 to 36 in regular order, beginning with the one in the north-east corner, from thence to the west, then back to the east, and so on. All these sections have either a post or a mound of earth at each of the four corners, and also one in the centre, for the purpose of subdivision into quarter sections.

Land as an Investment.—Judicious investments of spare capital in land in the States, owing to the rapid settlement and development of the country, are sure to realize good profits. In 1854 the cultivated area of Minnesota embraced 15,000 acres, in 1860 it had reached 433,267, and in 1870, 2,304,683 acres. The lower priced lands should generally be bought for holding, and the higher priced for immediate occupation.

Public Lands.—In the States east of the Mississippi river the lands have nearly all passed into the hands of private owners; and, indeed, in desirable districts anywhere near the finished portions of a

railway the State lands are immediately taken possession of by homestead settlers. There is therefore but little option to an English gentleman settling abroad other than to buy railway lands, unless indeed he can content himself to join in the advance guard with the hard-working pioneers.

Lower Priced Lands than those in Martin County can be bought through this agency in many of the border counties of Southern Minnesota and Upper Iowa. Their quality is often as good as those commanding the higher price, but they are as a rule either further away from labour, railways, English neighbours, or advice in cultivation. They, however, offer excellent investments for capital.

Private Lands can be bought, and in some instances at lower rates than railway lands. A purchaser in dealing with a private owner must, however, take care to see that the title is good, and the property is free from mortgages or judgments, also that the vendor is a responsible person, as these liabilities often arise from the owner having overbought, or overtraded his capital.

The Share System.—Lands are constanly cultivated on this system in the States, the owner of the land receiving one-third, and the person finding the labour, stock, implements, and seeds, the two-thirds of the profits, or one-half only if he finds nothing but the labour. Either this or the rent system would be applicable where relatives or friends in England assisted in finding capital for those who were going out.

The Choice of these Lands.—The district of Southern Minnesota has been chosen by Mr. Shearman after very careful consideration and comparison of its advantages and disadvantages with other States; and the land in this special county has been further selected as being some of the best in the district. The railways for which this agency now acts have many thousand acres of land on either side of their lines, some at higher and some at lower prices than those now offered. And there has been no motive whatever on Mr. Shearman's part in making selection of this county for first settlement, other than the very sufficient one that he considers it in all respects to be the best. Now that it has been so chosen, English gentlemen going

out to it will have not only the advantage of English society but the benefit of the assistance and advice which, given them in the early seasons of their settlement, will make the difference between success and failure, satisfaction and discontent.

Terms of Purchase.—No land is sold on time,—a system which induces persons to buy more than their means afford, or their experience and capital can cultivate. A selection having been made, the money is paid to the bankers, who give a certificate of ownership for the land mentioned therein. This certificate is signed by the railway company and countersigned by the bankers. A purchaser, after this, has the right to exchange the land he has bought, at any time within seven months, for any other land owned by the railway in the county; this exchange being made free of all cost and charges, and a full warranty deed given upon the surrender of the certificate of sale.

Out-of-door Work.—It is the uniform testimony of those who have lived for years in Minnesota, that they can work out of doors more days during the twelve months than in the Atlantic States.

Labour.—Mr. Beckett, for some years a land steward of the Duchess of Westminster, visited the northern part of the State in 1872, and says :—"The labour question is not surrounded with the serious difficulties I apprehended, inasmuch as hundreds of poor men of almost every nationality have pre-empted Government sections; and being very poor, they will readily help the farmers in harvest, and work their oxen on hire by way of procuring means to manage their own lands."

Manufactures.—President Scott, of Iowa, speaking of the wants of that State, urges the encouragement of manufactures, bringing the producer and consumer side by side, and says we export hides and import leather, burn straw and import paper, export wool and import its products, buy all kinds of pottery and earthenware with the raw material under our feet; that producers may consume our surplus food, and that we may get the articles we consume at less cost; we want tanneries, oil mills, paper mills, woollen mills, meat packing and curing houses, glue, cheese, butter, candle, and sugar factories, manu-

factories of earthen and wooden ware, and the multitude of implements.

Indians.—The remnants of the tribes who inhabited these districts have all been moved some years since to reservations west of the Missouri, a distance of some four hundred miles from these lands. There are as many North American Indians to be seen in England as there are in Martin County.

The increase of population in Minnesota has been more rapid than was ever made in California during the gold-mining mania; census returns show it to have grown three and half times as fast during the time of its greatest advance as the most rapidly growing State of the Union in the most rapid period of its growth. Yet this is not a land of mining desperadoes, or lawless frontier men, but of an industrious class of agriculturists who have flocked here not only from abroad, but from every State of the Union.

Life and property are as safe in Minnesota as anywhere in Great Britain; and crimes of any kind are less frequent.

Fuel.—Wood is at present the principal fuel; and the demand for this will continue until the Iowa, Dakota, and other coal-fields are brought into requisition. The adjoining State of Iowa has an area of more than seven thousand square miles of coal-fields.

Cost of a House.—A wood frame house with eight rooms, matched floors and roof, tongued and grooved ceilings, well-made sashes and doors, will cost £200. The house should front the south or east, as the prevailing winds are from the west and south-west. Plans and specifications can be prepared here and sent out, and estimates received home from local builders.

The best route is by Cunard or White Star Line from Liverpool to New York; thence by railway to Chicago.

Agricultural pursuits in England.—Half the capital which is necessary to work an English grain-growing farm as a tenant merely, will suffice to thoroughly work, as well as to obtain, the freehold of more land in the States. Is it well therefore to pay rent for another man's land when a single year's rental will purchase a

freehold of your own? Apart from this, competition is so great for farms in England as to make it most difficult to obtain even a tenancy, and then the profits are so small as to make it impossible for any but the most experienced to make a living; whilst in the States the fewer expenses and richer grounds allow so great an extra margin of profit as to admit of ruder cultivation and time for experience; indeeed, it is well known that many of the most successful agriculturists in the States have had no knowledge of the subject previous to settling on their own lands.

Agricultural Reports.—There is an increasing interest in, and demand for, information concerning agriculture, horticulture, stock raising, and manufactures, by those who are seeking as well as those who have already found homes in the West. To meet this, the Reports of the Commissioner of Agriculture are published by the United States Government annually. They are publications of the highest value, and of the utmost usefulness to all who are interested in the pursuits of agriculture, and especially so to Englishmen newly settling in the States.

GRAIN CROPS.

The quality of Minnesota grain has fully borne out the predictions made in 1851 by D. D. Owen, the geologist, that "the land best adapted for wheat and most small grain, and in which the proportion of earthy, saline, and organic matter is distributed in the best proportion to impart fertility and durability, is the soil based on the calcareous and magnesio calcareous rocks, and which particularly characterises the country bordering on the Mississippi and its tributaries, between the 41st and 45th degrees of latitude."

"Some of the most valuable crops care but little for the extreme cold of winter, providing they have the required amount of summer heat for ripening. The major supply of the principal grains come from a zone between the 34th and 48th degrees of latitude, and chiefly east of the 95th degree of longitude; and the most productive States are those having an altitude of from 400 to 1000 feet above the sea."—*Climatic Register*.

In Southern Minnesota grain is sown in April, harvested in August, threshed and sold in September. A profitable business is thus all accomplished in five months of the year.

Crops of 1874.—Minnesota:—Indian corn, 7,548,000 bushels; wheat, 21,338,000; rye, 145,000; oats, 11,135,000; barley, 954,000; buckwheat, 45,000; potatoes, 2,465,000.

Wheat.—Mr. Dalrymple, the largest wheat grower in the State, gives the following data as to the cost of wheat crops:—

Fall ploughing	dols. 2.00 an acre.
Seed wheat, 1½ bushel	,, 1.50 ,,
Sowing and harrowing	,, 75 ,,
Cutting, binding, and shocking . .	,, 2.50 ,,
Hauling and threshing	,, 3.00 ,,
	,, 9.75 an acre.

Crop of 22 bushels per acre in 1872 sold for 1 dollar 5 cents per bushel.
Cost of land in 1864, 10 dollars per acre. Value of land in 1872, 40 dollars.

Wheat is sometimes sown broadcast, but generally in drills from 4 to 6 inches apart.

"The wheat field of Mr. Wilkinson, of Goodhue, Minnesota, in 1873, is reported as being two miles in length, containing 800 acres. At harvest time, seven reaping machines were worked, and after these came 40 men binding and shocking."

"Statements on the wheat crop of Mr. Dalrymple, of Minnesota, put the yield for 1872 at 40,000 bushels, worth $44,000; net profit, $11,000.

Winter Sowing.—Drill culture is unquestionably the best for winter crops. In Wisconsin, Minnesota, and Iowa, there is but little winter wheat grown, though Michigan, as far north as either, produces almost exclusively winter wheat.

Spring wheat.—The proportion sown is about 40 per cent. of the whole crop of the States. One-third of the Illinois crop is spring wheat, a small portion of Kansas, and nearly all of Nebraska. The little grown in the New England States is nearly all spring. The use of the drill is nowhere predominant in the spring wheat regions, although the system is generally considered to be the best.

Maize.—Indian corn, the great crop of the States, is chiefly used

for feeding stock, whilst wheat is grown for export or for city markets. The value of the maize crops of the whole States for 1873 was over $447,000,000; whilst the total value of the crops of wheat, oats, barley, rye, and potatoes did not exceed $540,000,000.

Barley.—The following is from the *Le Sueur* (Minnesota) *Sentinel*, August, 1875:—"A farmer in Wabasha County bought 80 acres of prairie for 1,500, and put 70 acres of it in barley this year, from which he raised an average of 45 bushels per acre, which he sold for 80 cents per bushel; he thus paid for land and breaking, and all improvements, with the first year's crops."

Oats.—The oats of this State are heavier by from three to eight pounds per bushel than those produced elsewhere.

Rye and Buckwheat can be produced in abundance, and of the best quality; but the far greater facility and profit with which more valuable products are grown, have caused a contraction of the area formerly assigned to their culture.

"Buckwheat is mainly a supplementary crop put in to ward off anticipated scarcity, or when the season has been unpropitious for sowing the standard grains."

Straw.—The straw of these cereals should be of some value, but with few exceptions it is burned, and its fertilizing value dissipated, except a minute proportion of ash.

Flax.—A new branch of industry has been opened up in the cultivation of flax, and the manufacture of linseed oil. Apart from the profit on the seed, the fibre finds a ready market. In 1873 about 7,000 acres were under flax cultivation, Blue Earth County raising about half of all the flax grown in the State.

Hops.—Hops grow wild, and attain a large size. Their cultivation would doubtless prove remunerative; 93 acres yielded 114,429 lbs.

Root Crops.—The soil is so rich as to be well adapted to the growth of all kinds of root crops.

Beet.—Beet sugar production, as an extensive and remunerative branch of industry, is still an unsolved problem in this country. It gives a rather larger yield of sugar than sorghum does, but it is more difficult to manufacture, and its syrup is worthless for the table.

Grasses, etc.—White clover and timothy grow most luxuriantly. Millet produces a good crop. The native grasses make excellent hay, and have been as yet but little superseded by other varieties.

Sorghum.—Increasing interest is manifested in the cultivation of sorghum. The syrup extracted from this plant is like molasses, with a taste like honey. The yield of syrup is from 150 to 300 gallons per acre, and its value 50 cents to one dollar a gallon. The cost of cultivation is about $15 per acre. A large grower in Iowa says one of the most important things is to select a suitable piece of ground, as all soils will not produce good sorghum; it should be dry land. A warm, light, loamy soil will produce the best syrup.

The Chinese sugar cane (*sorghum saccharatum*) was introduced into this country from France, in 1854, through the agency of the Department of Agriculture. The census of 1860 shows a manufacture of more than 6,500,000 gallons of sorghum molasses, but no sugar; and the census of 1870 shows 16,000,000 gallons of molasses and 28 hogsheads of sugar.

During the early years of the sorgo enterprise, the Chinese variety (a black seed) was generally used, but, later, the Otaheitan (a glossy brown), which is really an African seed, and is the best for sugar, but poorest for syrup; also the Liberian (a deep red), which is a heavy producer, not affected by rust or blight. All admixture of the seed tends to the deterioration of the saccharine and the increase of the wood; the richness of the juice, and not the size of the stalk, should be the test of quality. Pure seed of high character should yield from 200 to 300 gallons per acre.

"The Otaheitian is thought to be the best variety to make sugar; the yield is from six to nine pounds of sugar to a gallon of syrup." The following is another average of the cost of cultivating this crop:—Ploughing and harrowing one acre, $2·50; planting and hoeing, $4; shipping, cutting, and hauling, $6.

A sorghum grower says, plant early. The best syrup is made from cane not fully ripened. In working, the first thing to be done is to select a good crushing mill and evaporating pan.

Sorghum has been grown in Martin County for six or eight years past, and has been very profitable, but has only been grown on a small scale—about an acre or so—by each farmer, for they have lacked the necessary capital for the purchase of crushing and refining machinery. £500 capital would be necessary for working 100 acres in sorghum; that includes the cost of all necessary machinery for crushing, refining, etc. The prices set forth by Mr. McCadden, of Horicon, Martin County, in the following letter, coincide with the statements made by other farmers who have had experience in raising sorghum:—

H. F. Shearman, Esq.,—

Sir,—In relation to your inquiry about the cultivation and manufacturing of sorgo syrup, I would say, after six years' experience, I shall sum it up as follows, taking an acre as a standard:—

Ploughing, 1 dol. 50c.; harrowing, 25c.; marking, 15c.; planting, 40c.; rolling, 25c.; seed, 30c.; hoeing, 3 dols.; cultivating, 2 dols.; stripping, 1 dol. 50c.; cutting, 1 dol. 50c.; hauling to mill, not to exceed two miles, 3 dols.; crushing and evaporating, including wear on machinery, 8 dols.; one and a half cords of wood, 6 dols.; making a total cost per acre of 27 dols. 85c. (or £5).

I consider 150 gallons per acre only a fair yield, with fair cultivation; with a little extra cultivation it will overrun these figures. I have had no trouble to dispose of all I could raise at from 70 to 85 cents per gallon. A good article has always been safe to count at 75 cents per gallon. I shall sum it up as follows:—

	Dols. cnts.
To producing 1 acre (Dr.)	27·85
To 150 gallons syrup, at 75 cents . . .	112·50
Net profit on 1 acre . . .	84·65

This is what it has cost me to produce it on a small scale, with only a two-horse mill; on a large scale the cost of producing would be a trifle less than the figures here given. To this should be added 3 dols. for casks to hold the syrup.

I would recommend Blymer, Norton, and Co., of Cincinnati, Ohio, as the most reliable company of which to purchase your machinery.

Respectfully yours,

R. J. McCadden.

P.S.—I should have added to the proceeds of the above 20 bushels of seed, which is worth almost as much as corn for feed for horses, cattle, sheep, or hogs.

Mr. H. M. Keeler, a good practical farmer in Martin County, gives

the following statement:—In 1872 he planted one acre, and expenses were as follows:—

	dols. cts.
One day's ploughing, harrowing, and marking	3·00
„ planting	1·50
Two days' hoeing	3·00
One day's cutting	1·50
Two days' stripping	3·00
Hauling four miles	6·00
Total cost	18·00

Product, 192 gallons, of which he gave half for crushing and refining; so that 96 gallons cost him $18, or rather less than 19 cents per gallon.

Planting ought to be done from the 7th to the 20th of May, and the crop should be ripe early in September.

Mr. Keeler gives the following as the cost of growing sorghum:—

	dols. cts.
Ploughing	1·50 per acre.
Harrowing and marking	·40
Seed	·30
Planting	1·50
Hoeing twice and cultivating	4·00
Stripping	2·50
Cutting and topping	2·00
otal before refining, except the carting to crusher	12·20

An ordinary load of the cane would turn out 10 gallons of syrup.

Beans, as a sod crop, are specially referred to elsewhere in this pamphlet. Until 1872 they were only cultivated in Minnesota in garden patches, but they are now being grown extensively, particularly as a sod crop and in Martin County.

Field Peas will produce from 40 to 60 bushels to the acre, and are worth from $1.50 to $2 per bushel; the cost of producing them is less than $12 per acre. They are one of the few field products that are not grown in the United States in sufficient quantities for home consumption, and are imported largely from Canada.

Potatoes are unsurpassed in quality. A product of 250 and 300 bushels per acre is frequently obtained, while 400 and even 500 bushels have been produced under favourable circumstances. In 1872, 26,000 acres were in cultivation for potatoes. Potatoes are often ploughed in in the spring, and ploughed out in the fall, without any hoeing or intermediate attention.

Onions will be one of the most profitable crops. The yield is from 200 to 600 bushels per acre, and they are worth from 75 cents to 3 dollars a bushel; as an average price, 1 dol. 25 cents per bushel can probably be depended on, clear of cartage, freight, etc.; and the cost of raising them should not exceed 40 dollars per acre. One man near Martin County is said to have realized last year over 8,000 dollars net profit from 63 acres of onions.

Markets.—A great portion of the crops are sold at Fairmont, Winnebago City, or the town nearest to the land; but it would probably be found more profitable to send to Chicago or Milwankee, and eventually, on wheat, directly through to England.

Successful Farming here is a much more simple business than it is in England, and the knowledge of it may be readily acquired. The richness of the soil and saving in cost of tillage renders less necessary adherence to rigid laws which are essential to success in older countries. In all new countries it is curious to find that some of the most successful farmers are men who have been brought up to other trades. Land which has been cultivated several years produces the best crops; it is the large amount of sod crops which reduces the State average yields. There is the most money in a diversity of crops, and this avoids impoverishing the soil. With a proper rotation, and the application of fertilizers, the present richness of the soil could probably be maintained for ever; but Minnesota farmers do not as a rule trouble to manure their lands, and will grow the same crops year after year, growing wheat perhaps for twenty years on the same land, without manure or change of seed.

Seeds.—There is a United States department whose object is to distribute as widely as possible small supplies of well-chosen varieties of seeds for experimental purposes.

"It has been the province of this department to seek for the best seeds which the world can supply, to study their adaptation to the soil and climate of the country, and to put them into the hands of those who will make them profitable to the sections where they respectively reside. When any discovery is made in the method of cultivation or propagation, it is promptly communicated through the medium of a monthly publication. . . . The counsel, advice, and information of the department are cheerfully given to all persons who apply for them on any subject which pertains to the business of agriculture."—*Report of Commissioner*, 1874.

Sod Ploughing and Planting is best when done in June. A particular stage of vegetation of the overturned sod promotes its rapid decay. A team of six oxen will turn an acre and three-quarters, or four horses will turn two acres and a quarter of sod a day. After the furrow is turned it is often planted in a rough manner, by chopping a place with the single stroke of a hatchet, dropping the seed in, and pressing it down with the foot; but machines called hand planters are best to be used for planting beans or corn on the sod. Beans or potatoes are among the crops to raise the first year as sod crops. Shallow breaking the sod is preferable, say, to a depth of three inches; it rots sooner, and produces better crops at once: heavier crops may also be taken from lands on which the breaking plough is followed by a stirring plough. 50 bushels of oats, 30 of wheat, and from 300 of potatoes have been grown on the sod.

Ploughing, Harrowing, etc.—Ploughing may be done during eight months of the year; 2¼ acres is a fair day's work. A man with a yoke of oxen and gang harrows will go over 20 acres a day. Breaking, ditching, etc., is done between seed time and harvest.

Grasshoppers.—Whilst Southern Minnesota is free from many of the insects which prey on vegetation in other parts of America, it has suffered, with many other States, from a plague of grasshoppers, which has visited it three times during the past twenty years. The natural home of these insects is on the barren table-lands along the eastern base of the Rocky Mountains; their flight is only occasionally known to extend into States outsides these regions. In 1873 and 1874 they destroyed most of the crops.

The *Statistics of Agriculture*, 1873, says :—"Grasshoppers have been reported as quite destructive in many parts of the country. "In New Hampshire they were numerous"; in West Virginia they appeared in great numbers. "They were also reported thick in Illinois, Iowa, Nebraska, Colorado." "West of the Mississippi, their mischievous influence was felt from Texas to Minnesota." This report gives a long account of the damage done to crops by their visitation.

Insects.—Except grasshoppers, Southern Minnesota has been comparatively free from the insect pests which ravage many of the States, but, speaking generally, "there has been no period in the history of this country where farmers' crops have been so extensively depredated upon as in the past year (1873), and this has brought into active exercise the knowledge and industry of the Entomological Division of the Department. There is an increasing demand for information with regard to insects injurious to vegetation, and much pains has been taken to investigate the character of insects sent here, to point out their modes of infliction and the means by which their depredations may be avoided."

Fungoids.—The Microscopic Division of the Department of Agriculture has been engaged during the present year in making original investigations, mostly relating to the habits of parasitic fungoid plants. Among those investigated have been the black knot fungus of the plum and cherry trees, apple speck in Arkansas, potato rot, pear blight, and cranberry rot.—*Report*, 1874.

Open *v.* Forest Lands.—Timber lands are increasing in value for the purposes of the lumberman; but, so far as agriculture is concerned, the time has passed when men will hew farms from out of the forests.

Mr. A. J. Russell, Inspector of Crown Timber Agencies under the Government of Canada, remarks that the cost of clearing off the wood is about three pounds five shillings per acre; a further expense of twenty-five shillings must then be incurred to get rid of the stumps, entailing also ten years of labour before the land is in the same state as the settler on the partly wooded prairie land finds his when first he goes to it; another objection to wooded countries being the

obstruction they present to the spread of settlement, and the expense of opening up roads; and after further remarks says it is not surprising, therefore, that so many European emigrants pass through Canada to seek the prairie lands of the United States.

Another writer, speaking of the advantages of prairie over forest, says:—"Here the farmer may proceed to work at once; the grass lies spread on the level prairie, he may cut any quantity which his needs suggest, he may cart it over roads made without the aid of man. The plough may be put into the soil the first day of his arrival; no need to wait to fell trees, roll logs, or till sun and rain shall rot the charred stumps. Where the Canadian farmer ends, after years of ceaseless toil, there the farmer of this province begins."

Timber.—The extent of timber in the most southern part of the State is limited, and it is chiefly found in belts and detached groves lining the borders of the numerous streams and lakes, and also in scattered growths called oak openings. This disadvantage in point of picturesqueness is counterbalanced by the ease with which a farm can be brought under cultivation, whilst for the purposes of building, or for fuel supplies, can always be obtained at very low rates.

"A belt of forest (Bois Franc) crosses the Minnesota about latitude 44·30, which is remarkable for its unusual body of timber in this country, otherwise but scantily supplied with wood."

Trees.—Even in the forest States the planting of young trees is much advocated, and the importance of each farm growing its own timber is strongly urged. "If nothing else is done, every farm ought to have at least an acre of black locust trees." An amended Act was passed in March, 1874, "to encourage the growth of timber on western prairies."

Bounties for Planting.—As timber will increase in value, the planting of trees and hedges, if not immediately profitable, is much recommended. An annual bounty of two dollars an acre may be claimed out of the treasury of the county for every acre of prairie land planted with trees. This bounty commences on the third year after planting, and continues for twenty-five years; and for every forty rods of ground planted with osage or hawthorn so as to form a grown

hedge, a bounty of two dollars a year will be paid for eight years, commencing from the date at which the hedge is sufficiently grown to turn stock.

Varieties of Trees.—The principal trees indigenous to the State are oaks, cottonwood, elm, maple, linden, hickory, and walnut. The cottonwood has the most rapid growth, and is therefore valuable to plant as firewood; it can be propagated from seed sown broadcast, or from cuttings. Sometimes slender poles of this wood are cut, trimmed of their branches, and notched with an axe at intervals of a few feet along their length, then placed end to end in furrows, and covered with soil by the plough.

Evergreen, Ornamental, and Shade Trees are recommended by the Society in the order named:—Norway spruce, Austrian and Scotch pines, European larch, balsam fir, American arbor vitæ, black spruce, white spruce, red cedar; for ornamental trees, the mountain ash and white birch; for shade trees, white elm, basswood, white ash, box elder, rock maple, soft maple, butternut, walnut, hackberry; for wind-breaks, larch, beech, and hemlock. In planting, procure none but small trees. The time for transplanting is from April 15th to May 25th.

Hedges.—The osage orange thorn, or bow-wood, is much recommended for hedges, but it will grow to a great height. It is tough, strong, and elastic, with glossy foliage. Seedlings can be bought for about 7*s.* 6*d.* a thousand; they are usually planted three feet apart. A pound of seed will produce from 2000 to 5000 plants. The honey locust also makes a good hedge.

Grasses vary much in their character, habits, and nutritive values. From five to ten species will always grow better than one, and animals flourish better on mixed grasses than they do on a single species. Mr. J. Stanton Gould, of New York, has written an excellent and practical treatise on "The Management of Meadows and Pastural Lands."

Wild Plants and Fruits.—A list of 727 plants embodies the observation made by Dr. Parry, in connexion with the survey of this

and the adjoining States. Amongst these are—clematis, anemone, larkspur, viola, yellow flax, red root, wild honeysuckle, prairie rose, geranium, cardamine, sundew, ranunculus, nasturtium, frost grape, wild bean, peanut, red bud, sensitive pea, liquorice, Indian turnip, spikenard, sarsaparilla, asters, cup plant, compass plant, mayweed, wild lettuce, veronica, painted cup, verbena, bergamot, wild ginger, water pepper, flowering spurge, mocassin flower, wild hyacinth, and many others described only by their botanical names; strawberry, wood strawberry, common vine, sand cherry, bird cherry, red, black, and flowering raspberry, blackberry, cranberry, crab apple, chokeberry, prickly gooseberry, ground plum, wild plum, black, and red currant; hazelnut, common hop, onion, mountain leek, artichoke.

Orchard Lands.—Too much fruit cannot be raised; it does not seem possible to overstock the markets, the demand increasing with the supply, and especially so since the introduction of the various processes for preparing fruit for shipment.

Fruits.—Almost all the fruits that flourish in England will grow well in Minnesota. Many of them are now extensively cultivated. Apples, cherries, plums, grapes, strawberries, currants, and gooseberries grow wild. Nowhere is the strawberry found in greater profusion, or of more luscious flavour. Fruit-preserving would be found a profitable industry. In 1872 a million and a half of apple-trees were growing in the State; nearly 300,000 quarts of strawberries were grown; and about 500 acres were under cultivation with raspberries and currants.

Currants should be grown from cuttings six inches long. In permanent plantations the young plants should be set in rows five feet apart, at distances of four feet in the row. A small crop is obtained the third year, whilst a full crop will range from one ton to two tons per acre. The cuttings fetch three dollars a thousand, and the plants thirty.

After patient experiment a degree of certainty in fruit culture has been attained. The progress of this industry can be read in the history of the Minnesota Horticultural Society, published in compliance with an Act of the legislature. At the first exhibition of fruits at Fort Snelling, in 1860, premiums were awarded for a few

crab apples. In 1866, Mr. J. S. Harris, a pioneer in fruit culture, exhibited 19 varieties of apples from grafted trees. The last meeting at St. Paul, in 1873, showed a further rapid advance both in number and excellence of fruits exhibited.

Planting Apple Trees.—The ground should be ploughed ten or twelve inches deep; the trees twenty or twenty-five feet apart each way, in holes dug about twenty inches deep, and a layer of sod placed at the bottom, filled up and mulched with coarse manure. While the orchard is young, plough the furrows towards the trees until a ridge of six inches or a foot is raised; or a mound a foot high and three feet broad should be thrown round, which will prevent the roots freezing. It is better to plant a hoed crop on the ground than leave it in grass.

Apples.—The following varieties of hardy apples are recommended ded for general cultivation:—For early autumn, Fetofsky, Duchess; fall and early winter, Fameuse, Haas, and Plumb's Cider; late winter, Ben Davis.

Plants used by the Indians.—Dr. Parry was, in the survey 1848-50, instructed to collect as much information as possible with regard to the application of plants which had been in use among the Indians. He noticed, as a matter of interest, that several of the most useful native articles of their vegetable diet were connected with features of the country which seemed the least desirable for cultivation. Thus the cranberry grew best in marshes, the huckleberry on barren ridges, and the staple wild rice fringed the edges of lakes. Among other plants in use were the *menispermum canadense*, a common vine, the root being a popular tonic; *podophyllum peltatum*, fruit eatable, root cathartic; *sanguinaria canadensis*, medicinal blood root; *rhus gabra*, common species of sumach, the juice from fresh-cut branches makes an indelible ink; *staphylea trigolia*, staff tree, a common vine used as an article of food in times of scarcity; *apios tuberosa*, the mdo or wild potato of the Sioux; *psoralea esculenta*, or Tipsinah of the Sioux, the Indian turnip; *cornus sericea*, *kinnikinnic*, used to mix with tobacco; *valeriana edulis*, has a thick fleshy aromatic root, used as a food and medicinally; *helianthus tuberosus*,

artichoke, a common article of food; *lobelia inflata*, Indian tobacco; huckleberry, collected and smoke-dried; *lophantus anisalus*, valuable for its essential oil; *hoary paccoon*, root furnishes a common dye; flowering spurge, used as an emetic; *urtica canadensus*, from the rotted remains of the previous year's growth of this plant the Indians made their fishing lines; sweet flag, made into mats; cat-tail, the down of the full-blown seed used by Indian mothers as a warm padding for infants' clothes; *saggataria variabilis*, the tubers when boiled furnished an article of native food, called also *wabesipinig*, or swan potatoes; *dioscorea villosa*, a wild yam root, a remedy in bilious colic.

STOCK RAISING.

These lands are well adapted to the raising of stock. Shelter and feeding will be needed in the winter months. The grasses are sweet, nutritious, and luxuriant, while the root crops cannot be surpassed. The many lakes and streams furnish a constant supply of pure water.

The dryness of the soil and the purity of the atmosphere render it singularly favourable for sheep breeding, and wool growing. In 1860 there were 12,000 sheep in the State, and in 1870, 129,000. The number has reached the maximum of 193,000, but there has since been a decline, doubtless due to the low and fluctuating price of wool.

"There is an almost limitless area of excellent pasturage, an abundance of pure water, a dry and healthy atmosphere; and the native grasses, which grow in much luxuriance, are admirably adapted for the sustenance of cattle. The train of diseases which the damp and variable eastern or southern climates inflict upon animals are here nearly unknown."

All through the States it is necessary to provide winter protection for cattle. The *Agricultural Commissioner* reports:—"It is certain that the districts in this country are very limited in which farmers can afford to winter stock without any provision for sheltering or feeding them. He further speaks of the abundance of food in the

western States as the cause of their condition in the spring being so good, and that it is quite made manifest that herds comfortably sheltered and sufficiently fed will pass through winter in thriving condition; whilst in the south, from want of food and protection, 'below average' is the usual condition of all flocks in the spring." —*Report*, 1874.

"The rigours of winter proved conclusively the necessity of protection, not only in the more northern of the southern States, but in Texas, where large numbers of cattle, estimated variously at 100,000 to 200,000 head, have succumbed to the combined agencies of cold and starvation."—*Report*, 1872.

In 1873 there were in the State about 150,000 of each horses, sheep, and pigs, and more than 400,000 head of horned cattle.

"The first annual sale of the Lyndale herd of Colonel King, near Minneapolis, Minnesota, took place June 19th. 28 short-horn cows and heifers were sold at an average of $614; 12 short-horn bulls at an average of $450; 16 Ayrshire cows and heifers at an average of $124; and 7 Ayrshire bull calves at an average of $66." — *Commissioner of Agriculture*, 1872.

Cattle Sheds.—Posts planted firmly in the ground with forked ends upwards, for the reception of strong beams, upon which cross poles are laid, and then threshed straw stacked thereon, afford good shelter for stock: so that at a cost of from £3 to £4 you can warmly shelter over 100 head of cattle.

Dairy.—"While the dairy factory interest is gradually extending in all directions, its greatest current expansion is to be found in the western and north-western States."

Butter.—The waste exhibited in the matter of badly manufactured butter is so enormous that it rarely fails to be emphatically alluded to in the discussions of the Associations. In 1873, 8,823,660 lbs. of butter, and 772,630 lbs. of cheese were made from 135,691 cows.

Milk.—"Professor Wellard estimates the average annual yield of milk per head at 1,800 quarts, of an average value of $2\frac{1}{3}$ cents per quart."

Cheese.—Cheese factories are multiplying in Southern Minnesota; the experience indicative of the quality of the milk is that as a rule nine and a half pounds of milk produce a pound of cheese.

Hogs.—The breed much recommended is the Poland-china, or Magee, as healthy, hardy, and docile, bearing the variations of the seasons with indifference. They are the earliest matured of all the large breeds, and attain heavy weights.

Pork Packing.—The number of hogs annually cured and packed in Minnesota is from 20,000 to 30,000, and their weight averages 230lbs. each. The report of the Commissioner of Agriculture for the year 1874 says:—"Minnesota shows the largest average, viz., 237, 46 pounds."

Honey.—232,948 lbs. were produced in Minnesota in 1872.

Birds.—The list given by Henry Pratten, of birds observed in Wisconsin and Minnesota, contains many varieties; on the St. Peter river and its tributaries, ninety-five species of birds that breed in the county were observed. Among them are the eagle, hawk, owl, whipperwill, martin, swallow, cedar bird, belted kingfisher, red-throated humming bird, nut-hatch, wren, blackcap tit, bluebird, thrush, oven bird, yellow bird, warbler, red hart, kingbird, chat, greenhet, butcherbird, blue jay, crow, blackbird, oriole, bunlorg, boblink, grosbeak, song sparrow, chewink or ground robin, Indigo bird, woodpecker, wild pigeon, quail, ruffed grouse, prairie hen, plover, heron, lark, tatler, rail, martin, coot, white pelican, tern, sheldrake, broadbill, ruffle head duck, teal, mallard, wild goose, and the diver.

Fish.—Pickerel, bass, pike, sunfish, and nearly all kinds of small fish abound in the various lakes and rivers, and afford excellent fishing.

Game.—There is plenty of small game, and in the spring and autumn countless flocks of wild ducks and geese.

BORDER COUNTIES OF MINNESOTA AND IOWA.

The border counties of Southern Minnesota, and of Upper Iowa, referred to in this pamphlet, are situated in about the same latitude as the centre of the State of New York, from which they are from two to three days' journey by rail.

SOUTHERN MINNESOTA.

Rock County is watered by the Rock river, and by the tributaries of the Big Sioux. The soil is fertile, and the surface a rolling prairie. In 1870 it had about 150 inhabitants, and in 1873 about 2000. Lucerne, on the Rock river, is the county town.

Nobles, watered by affluents of the Des Moines and Rock, has several lakes. The surface is level, the soil fertile. The St. Paul and Sioux City Railway runs through a portion of the State. The population has quickly risen from about 100 to 4000. Many of the settlers in this county came from Ohio.

Pipestone.—In Pipestone county are large exposures of quartzite, the most important of which encloses the famous pipe stone layer, from which the Indians have manufactured their pipes from time immemorial. Pipestone County has excellent soil, and an undulating surface, but railroad communication is needed to make its lands valuable.

Murray, has many lakes. The soil is fertile; its surface a rolling prairie. No railway as yet runs through this county.

Cottonwood.—The Sioux City Rail runs through one corner of this county, which is intersected by the Des Moines, Watonwan, and Big Cottonwood rivers. The soil is fertile, the surface undulating. Windom is the county town.

Jackson.—Surface uneven, though not much broken. It is intersected by branches of the Des Moines and Little Sioux rivers; has several fine lakes, good timber, and water power on the Des Moines. Population in 1870 was about 2000; it has now nearly doubled. The Sioux City Rail runs through a portion of Jackson.

Martin is drained by tributaries of the Blue Earth river, and has a chain of beautiful lakes. The surface and soil present every advantage to the farmer. The St. Paul and Sioux City, and the Southern Minnesota Railways are within easy reach for the transit of farm produce. A number of English families of good position are settled here on land bought through this agency.

Watonwan, north of Martin, is watered by the Watonwan river and its tributaries. The Sioux City Rail runs through the county.

Blue Earth.—North of Faribault. Three different lines of rail run through Blue Earth, forming Junctions at South Bend and Mankato. It is well watered by several streams, and has numerous very beautiful lakes.

Faribault.—On the border line of Iowa. The Southern Minnesota and the Minnesota and North-Western rails form junctions here. The streams are chiefly tributaries of the Minnesota.

Freeborn.—East of Faribault, and on the border line of Iowa. Has many large and very beautiful lakes. The Southern Minnesota Railway runs through it from east to west.

NORTHERN IOWA.

Lyon is the north-west county. The Rock river runs through it. Good lands are found here, with bodies of timber on the rivers.

Osceola is chiefly prairie land, well adapted for agricultural and grazing purposes. Its rivers are the Ochedan and Otter Creek. There is little timber in this county. In 1872 its population was about 1500.

Dickinson, east of Osceola, has beautiful lakes, which form a good summer resort. The West Okoboji and Spirit lakes are the largest between the Mississippi and Missouri. Trees border the lakes and skirt the banks of the rivers.

O'Brien.—The Little Sioux, Odecdan, Floyd, and several smaller streams afford an abundant supply of water. The soil is deep and fertile, and there is some timber on the streams. The Sioux City Rail crosses its north-west corner.

Sioux.—The Big Sioux, Rock, Floyd, and Otter Creek are the principal streams; along the Big Sioux the surface is broken and bluffy. The soil is very fertile. The Sioux City Rail crosses the south-west corner.

Emmet and Palo Alto have largely the character of a summit region; the valley of the Des Moines, from its entrance in Emmet to its exit in Palo Alto, deserves special mention for its fertility.

Plymouth has the Big Sioux river for its western boundary. No other county is better drained than Plymouth; some portion of the lands are broken. The valleys are splendid agricultural lands, and well suited for stock raising. The Sioux City Rail forms a junction here with the Illinois Central. There is very little land to be obtained here on reasonable terms.

RIVERS.

Blue Earth, or Mankato river, described in Dr. Shumard's report (1849), is a tributary of the Minnesota; from half a mile to a mile above its junction, the sandstone and limestone form abrupt cliffs seventy feet high. About four miles up the Mankato is the confluence of the Lesuer river, up which occurs an exposure of lower sandstone surmounted by pebbles, boulders, and nodules of iron ore. The Psah river enters the Blue Earth on the left, about five miles above the Lesuer. It may be ascended with difficulty for a few miles to where it forms the boundary between the outcrop of rocks of lower silurian date, and the region of drift deposits such as encountered by Dr. Owen towards the heads of the Iowa and Des Moines rivers. The first good exposure of rocks on Blue Earth river is at Blue Earth-bluff, mentioned by Featherstonhaugh and other

explorers. It is composed of sandstone at the base, capped with magnesium limestone and thin layers of green, blue, and yellow marl. The elevation of sandstone then generally decreases until it disappears at about the mouth of the Watonwan.

The **Des Moines**, which rises in Southern Minnesota, is the longest and largest of the Iowa rivers. Its upper portion is divided into two branches, called the East and West Forks. These unite in Humbolt County. Above their confluence the valleys of drift vary in width from a few hundred yards to half a mile, and are in depth from fifty to one hundred feet below the general level of the uplands, but are quite above reach of the highest water, and are among the best agricultural lands.

Big Sioux.—At Sioux falls, above the north-west corner of the State of Iowa, a quartzite formation outcrops directly across the stream and causes a fall of about sixty feet within a distance of half a mile, producing a series of cascades, with wild and romantic scenery. Along the borders of Sioux and Lyon counties abrupt bluffs appear on both sides of the valley. Some good mill sites may be secured along that portion of the Big Sioux which borders Lyon County.

Little Sioux.—The upper branches in Dickinson and Osceola counties are small streams with gravelly beds and banks, and gently sloping shallow valleys. On entering Clay County the valleys reach a depth of about 150 feet.

Rock.—This stream has exposures of red Sioux quartzite along its main branch in Minnesota. Its beds and banks are usually sandy and gravelly, with occasional boulders.

The **Upper Iowa** is a comparatively short river; it rises in Minnesota in the region occupied by devonian rocks, and flows across outcrops of limestone and sandstone. Its valley sides are consequently high and steep.

NOTES FROM THE PRESS.

"The lands of Minnesota are called the 'Wheat Field of America' with good reason."—*Magnet.*

"The Minnesota wheat is excellent, and justifies the claim set up for that State as the finest wheat-producing portion of America."—*Bell Messenger.*

"The great agricultural resources of Minnesota have in recent years attracted large numbers of settlers to that part."—*Chamber of Agriculture Journal.*

"Minnesota is among the best corn-growing countries extant. There is no disguising the fact, we are over-populated in the old country, and cannot do better than look to Minnesota, or some other country affording similar advantages to emigrants for the investment of capital in land, and the employment they cannot obtain in England."—*Land and Water.*

"There is no question of the valuable quality of the land in Minnesota, and that good crops can be grown from it."—*Mark Lane Express.*

AMERICAN LAND AS AN INVESTMENT.

A London daily paper, commenting on the disclosures made before the Parliamentary Select Committee on Foreign Loans, says :—"The evidence which they have laid before the public presents the melancholy fact that a large proportion of the earnings of the British public have been invested in trash. It may be that, despite this unhappy retrospect, new bonds will be issued, new shares will be created, and new dupes will find their way into the maelstrom of the Stock Exchange; but amidst them all the philosophy of Lothair will gain strength daily, that there is nothing safe but *land*. Other 'securities' may again increase and multiply, and may afflict this nation like the plagues of Egypt; but land remains a fixed fact of our globe—the last acre of land has been made, whilst population and wealth must increase. While the demand increases the supply remains fixed. It may not be that everyone can own a farm or even a garden in England, but the land-seeker is not bounded by our seas. Before him lies the whole world, over but a small portion of which is man in its fullest sense lord and master. Turn for example to the West; there millions of broad acres lie between the Atlantic and the Pacific, waiting for man only 'to be tickled with the hoe to laugh with the harvest.' . . . Millions and millions of broad acres could be brought under cultivation with a comparatively small amount of capital. The security of the principal could be made as safe as it is possible in this world by a joint ownership with the former, or by a mortgage upon the land with a fixed rate of interest, or a proportion of the profit. The expense of examining titles and registering conveyances would not equal a broker's commission for an 'operation' upon the Stock Exchange; and this once arranged, an annual and permanent income would flow to the lender in the proceeds of the sale of cotton, tobacco, wheat, meat, hemp, and staple productions. Capital employed in this way would be turned from unsafe to safe security, and from unhealthy to healthy climates."

From the "American Traveller," Oct. 16th, 1875.

QUESTIONS ABOUT AMERICA, WITH THEIR ANSWERS.

To the Editor of the "American Traveller."

"Dear Sir,—As you edit a journal devoted to the interests of Americans, I take it for granted that you have writers on your staff who are better posted than most of our London editors in statistics relative to America's soil,—topography, agriculture, and commerce. On the strength of this supposition, I beg to ask you the following four questions:

"First Question.—What part of America is the best place for an English farmer to emigrate to, with about £750 in his pocket?

"*Reply.*—That depends altogether upon your own inclinations. If you desire to engage in manufactures or the fish business, you should settle in Massachusetts. If you wish to raise fruits for the New York market, or to make American champagne, try New Jersey or Delaware; but if you are inclined to lead the

life of a hard-working practical farmer, where you can double your investments in the least possible time, we unhesitatingly say, purchase a tract of land in the southern part of Minnesota, and take possession at once, with a full complement of American-made farm implements, in the convenience of which they are far in advance of the rest of the world.

"SECOND QUESTION.—In what part of America are the people the most friendly and cordial to Englishmen?

"*Reply.*—There is not a place in all America where an Englishman, and especially a labouring man, would not be both delighted and astonished by his cordial and brotherly reception from *all classes.* To this rule there are no exceptions.

"THIRD QUESTION.—What annual interest can a healthy, industrious farmer realize on his investment by purchasing a wild forest, and converting it into a first-rate farm; and how can he learn what sections, States, or districts are growing the fastest?

"*Reply.*—This is a double question, and somewhat complicated. We will try, however, to make our reply cover it. Men no longer go into the forests to make farms with axes; that day has been numbered among the 'things that were,' for nearly three-quarters of a century. It can be done, however, to-day, at a profit of about two per cent. But this is an age of steam, of progress; shrewd practical men now purchase a large tract of prairie land in the southern part of Minnesota, containing a belt of timber sufficiently large for fuel, fences, log buildings, and the like, and thus lay the foundations for rapid and immense fortunes. In the spring, as soon as the frost is out of the ground, the farmer ploughs his land with a furrow twelve inches in depth, and on these overturned sods he will generally raise enough corn, turnips, and potatoes to support the family and to pay the expense of labour. The sods are all found decomposed the next spring, and the rich black soil, as mellow as an ash heap, will yield, if the seasons are favourable, from thirty to forty bushels of wheat to the acre for a number of years in succession, without dressing. There are hundreds of farmers to-day in Minnesota who paid for their farms from the crops of the second and third years; some, in fact, from the second alone—but these were exceptions, when industry, luck, and Nature worked harmoniously throughout the entire season.

"A farm paid for from its own produce in three years looks like a pretty good investment; but that is only *half*, as land thus occupied and handled by a *live* man will always double in value during the same length of time, and command a cash sale if the owner wishes to sell out. The successful pioneers through that section, are all in possession of *five* important requisites for acquiring wealth in frontier life—*health, industry, temperance, cuteness,* and *tenacity!* Without even one of the five, they would have sold their improvements for a song at the end of the first year (as hundreds annually do) and have moved on to pastures new, for the benefit of those that followed.

"To obtain reliable information relative to the comparative growth of States, Cities, and Sections, there is no better way than to carefully study official statistical tables. For the benefit of science, agriculture, commerce, and history, an association of forty-two of the leading men of Minnesota employed a

statistician in the fall and winter of 1872 to ascertain the exact amount and precise character of every pound of freight that passed *out* and *into* St. Paul, over each and every railroad, between the 1st of January and the 31st of December, 1872.

"About two-thirds of the State is north of St. Paul; but there is so great a variety of soils and currents of temperature, that while a large portion of the northern part will for many years remain a comparative wilderness, the southern third is rapidly filling up with flourishing well-stocked farms, neat school-houses, and thriving villages.

"We give the following few extracts from the statistical tables alluded to:—

Imports received at St. Paul from all portions of Minnesota :—		The southern third of the State sent in of that number :	
Butter (*pkgs.*)	11,828		8,452
Dressed Hogs (*No*)	10,432		9,790
Oats (*sacks*)	90,826		70,724
Potatoes (*bbls.*)	16,847		13,227
Poultry (*bbls.*)	5,526		4,267
Barley (*sacks*)	18,758		14,775
Wheat (*bushels*)	887,319		738,396

Exports from St. Paul to all parts of Minnesota :—		The southern third of the State received from that number :—	
Agricultural Implements (*pkgs.*)	38,592		19,431
Potatoes (*bbls.*)	16,480		956
Threshing Machines (*No*)	367		232
Oats (*sacks*)	58,132		68
Building Lumber (*feet*)	10,298,797		9,059,297
Whisky (*bbls.*)	4,053		1,286

"The above extracts are fairly eloquent with important facts. They not only give a history of the soil, crops, and climate, but of the people, their energy, enterprise, and industry. It is quite unnecessary to point out any particular features, as they clearly reveal on the surface the kinds of produce and merchandise that various sections *buy* or *sell*. Owing to the immense patience, expense, and labour requisite for compiling these tables, from so many hundreds of freight books, the enterprise has never been repeated; but the wheat receipts have since doubled at St. Paul, owing principally to the erection of an additional elevator of immense proportions. It should be understood, however, that the exports of wheat as given do not represent the yield of the State, but simply that which is shipped from St. Paul.

"The great *wheat gardens of the world* begin at St. Paul and extend southward. The States of Minnesota, Iowa, and Wisconsin produce about one-third of all the wheat grown in the United States, or about one hundred million bushels.

"Fourth Question.—What is frontier land worth per acre?

"If you will kindly answer the above, and also indicate what you consider the wisest course to pursue in order to buy land without being swindled, you will oblige a grateful

"English Farmer.

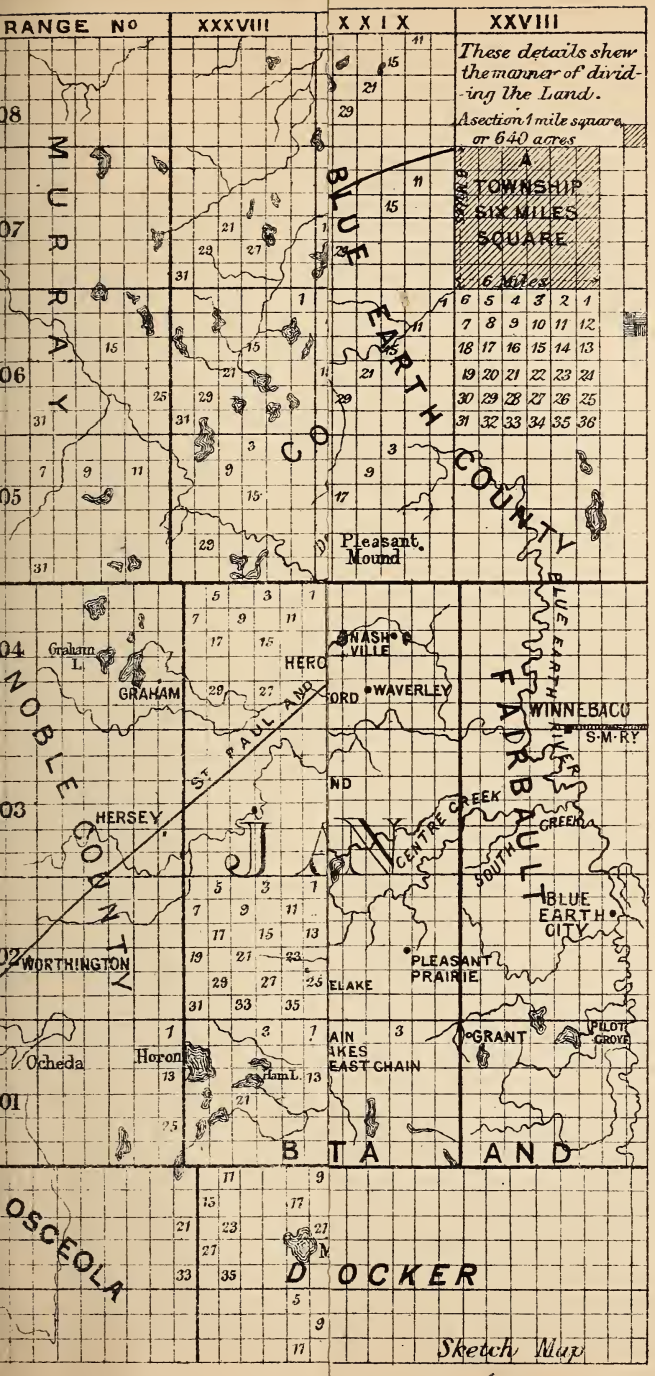
"*Reply.*—Frontier land, like everything else, is always 'worth what it will

bring.' It sells for from ten cents (English five pence) to thirty dollars (or six pounds) per acre, according to soil, water, and market facilities. For quick and sure returns from crops, and a rapid rise in the value of the land, we would always recommend a farmer to make his investments near a railroad though he get but half the number of acres which his heart covets.

Messrs. Shearman and Co. will give general information about land and farming in any of the States and territories of the Union.

138, Fleet Street, London, E.C.

"*Of all sorts of thrift for the public good, I would above all others commend to your care the encouragement to be given to husbandry, and the improvements of land for tillage. There is no such usury as this.*"—*Lord Bacon, Works, vol. ii., p.* 387.


RANGE No
XXXVIII
XXIX
XXVIII
These details shew the manner of dividing the Land.
A section 1 mile square, or 640 acres
A TOWNSHIP SIX MILES SQUARE
6 Miles
6 5 4 3 2 1
7 8 9 10 11 12
18 17 16 15 14 13
19 20 21 22 23 24
30 29 28 27 26 25
31 32 33 34 35 36
MURRAY
BLUE EARTH COUNTY
Pleasant Mound
NOBLE COUNTY
Graham L.
GRAHAM
HERO
NASHVILLE
WAVERLEY
WINNEBAGO
S.M.RY.
ST. PAUL AND
BLUE EARTH RIVER
FAIRMONT
HERSEY
CENTRE CREEK
SOUTH CREEK
BLUE EARTH CITY
WORTHINGTON
PLEASANT PRAIRIE
ELAKE
Ocheda
Heron
Ham L.
AIN LAKES EAST CHAIN
GRANT
PILOT GROVE
OSCEOLA
DOCKER
Sketch Map

RANGE No
XXXVIII
XXXVII
XXXVI
XXXV
XXXIV
XXXIII
XXXII
XXXI
XXX
XXIX
XXVIII
108
107
106
105
104
103
102
101
MURRAY
COTTON WOOD
BROWN
WATONWAN COUNTY
MADELIA
LINCOLN
BLUE EARTH COUNTY
These details show the manner of dividing the land
A TOWNSHIP SIX MILES SQUARE
Big Pond
Pond L.
BINGHAM
WINDOM
MOUNTAIN LAKE
BUTTER FIELD
NORWEGIAN
Amboy
Fieldon
Winona River
St. Paul & Pac. R.R.
SILVER LAKE
WILDER
HERON
LUVERNE
NOBLE COUNTY
HERSEY
NORTHINGTON
DES MOINES RIVER
CEDAR VALLEY
WALNUT GROVE
LOWER DES MOINES
MAY
Martin L.
BUTLAND
WAVERLY
WINNEBAGO
FAIRMONT
Sisseton
Dakota
Hayes
Mound L.
Clear L.
MILLER
FELMONT
JACKSON
Pleasant Prairie
Grant
JACKSON MARTIN
BORDER LINE OF
MINNESOTA AND
IOWA
OSCEOLA
DICKINSON
EMMET
CROCKER
Spirit Lake
Okoboji
Lakeville
Swan Lake
Estherville
Silver Lake

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